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Information on the activities of international intergovernmental and non-governmental organizations relating to space law

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Note by the Secretariat

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I. Introduction

The present document was prepared by the secretariat on the basis of information received from the European Centre for Space Law, the International Institute for the Unification of Private Law (Unidroit), the Intersputnik International Organization of Space Communications and the International Law Association.

II. Replies received from international intergovernmental and non-governmental organizations

European Centre for Space Law

[Original: English]
[27 November 2014]

A. Background information

The European Centre for Space Law (ECSL) was established in 1989, on the initiative and under the auspices of the European Space Agency (ESA), with the support of a number of pioneers in the field of space law. It functions under a charter, amended in October 2009, which defines its structure and objectives. The current chair of ECSL is Professor Sergio Marchisio of Sapienza University (Rome).

The central objective of ECSL is to promote and disseminate, in Europe and elsewhere, knowledge and understanding of the legal framework pertaining to space activities. It aims to do this across disciplines to improve both the technical understanding of those concerned with space law research and the legal understanding of those concerned with the production, use and operation of space technologies. The two major tools for reaching that goal are information exchange among interested stakeholders and the improvement and promotion of space law teaching.

1. Management

The Centre has a flexible and open structure. The ECSL General Assembly, open to all members, meets every three years. The ECSL Board oversees and assists in the running of the Centre's activities. Board members have impressive backgrounds and experience in space law and commit themselves to actively promoting the objectives of ECSL at the national and international levels. The Board's members for the 2013/16 period were elected at the end of 2012.

The executive secretariat is in charge of the day-to-day management and growth of the Centre's activities. The current Executive Secretary (since October 2013) is Edmond Boulle, former Canadian Rhodes Foundation scholar at the McGill University Institute of Air and Space Law.

2. Membership and international network

Membership of ECSL runs annually, and consistently numbers well over 100 natural and legal persons (128 in 2014) from ESA member States,

associated States and other European countries. This includes corporate and institutional "friends of the ECSL". The Centre brings together those with careers in space law and other interested parties: professionals from industry, lawyers, academics and student members all participate in order to encourage interdisciplinary exchange at all levels. Membership is a prerequisite for voting in the elections of the Board, attending the Practitioners' Forum and accessing ECSL publications and on-site resources.

The Centre has established a network of national points of contact in 14 ESA member States in order to provide local support for ECSL activities and facilitate contact between members. The national points of contact are often very active in their own right in the field of space law and provide ECSL members with details of their activities.

B. Summary of 2014 activities

1. Practitioners' Forum

The 2014 Practitioners' Forum took place on 17 March 2014 at ESA headquarters in Paris. The Forum discussed recent developments in export control regulations concerning space technology, focusing on European regional export control regimes; Italy's new legislation, dubbed "Golden power", on protection for strategic assets; developments in the United States of America regarding international traffic in arms regulations (ITARs) and the recent transfer of prerogative powers to the United States President; the perspective of ESA on export controls in the context of International Space Station cooperation; the manufacturer's vision for ITAR-free satellites; contending with export controls from the point of view of small satellite manufacturers; export controls and active debris removal; and how the legal profession has developed to offer advance warnings to clients on export control issues. Some 75 participants from various institutional, commercial and academic professions attended the Forum. It was organized by the ECSL Executive Secretary, Edmond Boulle, in cooperation with the coordinator of the Practitioners' Forum, Professor Frans von der Dunk, Othmer Professor of Space Law at the University of Nebraska-Lincoln, College of Law. A report is available from http://esamultimedia.esa.int/docs/ECSL/Report_ECSL_PF_14.pdf.

2. European round of the Manfred Lachs Space Law Moot Court Competition

The Centre is the official regional organizer of the European rounds of the Manfred Lachs Space Law Moot Court Competition. The 2014 European round took place in Wroclaw, Poland, from 14 to 17 May at the Faculty of Law, Administration and Economics, of Wroclaw University, on the invitation of the Dean and Vice-Dean of the Faculty. The Polish Ministry of Economy, as well as the Ministry of Foreign Affairs, were the honorary patrons of the event. As this was the first time the Moot Court had come to Poland, it was decided to host a special half-day symposium in commemoration of the life and work of Judge Professor Manfred Lachs.

The European arm of the competition continues to grow. In 2014, nine experienced university teams, as well as six newcomers, competed fiercely for the title of European champion and the chance to represent Europe in front of three sitting judges of the International Court of Justice at the world finals, held

during the sixty-fifth International Astronautical Congress in Toronto. The winning team was from Université Paris Sud. The team went on to represent Europe with a most respectable performance in the world semi-finals. Additional prizes were awarded for best oralist (Federico Bergamasco, Leiden University), best memorials (Cologne University) and best newcomer (West University of Timisoara, Romania).

3. Twenty-third summer course on space law and policy

The twenty-third edition of the ECSL summer course on space law and policy was organized in cooperation with the International Telecommunication Union (ITU), at the invitation of ITU Secretary-General Dr. Hamadoun Touré. It took place at the ITU headquarters in Geneva from 1 to 12 September. Thirty-three distinguished speakers, from a variety of countries and backgrounds, including academia, industry, the legal profession and international organizations, provided participants (43 students, 5 young professionals and 4 tutors) with a deeper insight into various current and fundamental issues of space law and policy. Owing to the venue of the 2014 summer course, special attention was given to the international regulatory framework governing telecommunications. In groups of six, the participants worked on a project which required them to think not only like space lawyers but also like social entrepreneurs and engineers. Their task was to represent a consultancy group advising ESA on a comprehensive satellite programme in order to meet the objectives defined by the World Summit on the Information Society on the so-called "digital divide". The project required the students to come to grips with the basic elements of satellite communications architecture, to identify one or more potential satellite applications which could be used to address the digital divide and, finally, to identify policy, legal and economic issues relevant to service provision in order to develop appropriate advice. The groups presented their projects in front of a prestigious jury composed of representatives from ITU, ESA and ECSL. The 2014 summer course also saw the introduction of a practitioners' day into the course. This innovation was very well received by the students, as it offered an insight into the varied legal issues encountered and careers available within the space sector. An excursion to the European Organization for Nuclear Research (known as CERN) and the ITU Discovery Museum was among the extracurricular highlights of this year's summer course. Another highlight was the participation of the entire summer course in a special event, organized by ESA, celebrating 50 years of European cooperation in space science, held on 12 September at the Geneva Convention Centre.

4. First essay competition

In order to promote knowledge of and interest in law relating to space activities through the promotion of research activities, it has been decided by the ECSL Board to inaugurate the first ECSL essay competition. The competition will challenge students to think critically about a particular topic in space law and policy and to present cogent arguments in support of a position. Students will have the valuable opportunity to build upon their own knowledge of space law and policy while practising and refining their analytical and research skills. The 2014 competition question is: "What are the main legal issues raised by space mining?".

5. Symposiums and colloquiums

In 2014, ECSL and the International Institute of Space Law (IISL) jointly organized a symposium on regulatory needs for very small satellites on the first day of the fifty-third session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space. Six speakers were invited to share their thoughts and experiences with the Legal Subcommittee on the need to carefully apply the existing regulatory framework to very small satellite missions in order to contribute to sustainable space activities.

The panellists observed the important role played by very small satellites in opening up space to those other than the traditional space actors. Such satellites provided relatively quick and inexpensive access to space for countries with developing space capabilities, as well as universities and other research institutions. Though small and comparatively short-lived, those missions faced the same regulatory requirements as those applicable to larger satellites. The symposium has become a longstanding tradition at the Legal Subcommittee, having been held every year since the early 1990s. A full report and all the presentations can be found on the Office for Outer Space Affairs website at www.oosa.unvienna.org/oosa/COPUOS/lsc/2014/symposium.html.

The Centre was a sponsor of the Paris Saclay Air and Space Law International Colloquium, which was held at the French Ministry of Research on 30 and 31 October 2014. The event was organized by ECSL Board member Professor Philippe Achilleas, Director of the Institute of Space and Telecommunications Law of Université Paris Sud. The colloquium featured 26 presentations and panel discussions spanning six contemporary issues in air and space law.

C. Documentation, resources and publications

1. Online legal database

The ECSL Legal Database is a highly valuable research resource and can be consulted online via the ECSL homepage. It provides quick and easy links to national and international space law texts, with a section dedicated to the various United Nations legal instruments. In addition, there is an extensive space law bibliography, organized thematically, and a further bibliography, organized chronologically by decade, of key events that have influenced space law. It also provides a comprehensive listing of space law journals and other space law institutions.

2. Space law teaching in Europe and beyond

The booklet "Space law teaching in Europe" was an ECSL initiative; it was first issued in 1991 and revised in 1993. The booklet included a list of space law teaching institutions, universities and educational centres in Europe. It is now available as a database, updated on the ECSL website, and includes information on educational centres and research facilities working in the area of space law outside Europe. The Centre welcomes additional or updated information from States participating in the Legal Subcommittee.

3. Archives

The Centre maintains an archive of thousands of hard-copy documents organized and catalogued at ESA headquarters in Paris. Members of ECSL may make an on-site consultation of documents contained in the archives upon special request to the Executive Secretary.

4. Newsletter

The ECSL newsletter is available online and features articles on recent events of ECSL and national points of contact, book reviews and other topics of interest to the space law community. Work is under way on the forty-first newsletter, which will be produced early in 2015.

5. "Space Law in the News"

"Space Law in the News" is a new members-only publication providing summaries and web links to articles engaging with issues of space law.

D. Major events and projects planned for 2015

The following major events and projects are planned for 2015:

- Board meetings: The last board meeting in 2014 was held at ESA headquarters in Paris on 8 December. In 2015, the first Board meeting will take place on 26 March
- The 2015 Practitioners' Forum: The annual Practitioners' Forum will be held on 27 March at ESA headquarters, on the theme of "Space governance in Europe: ESA's role and European Union regulation of space activities". The proposed format will involve a morning of individual presentations on the latest developments, followed by a keynote speech and panel discussion in the afternoon
- The 2015 IISL-ECSL symposium during the session of the Legal Subcommittee: The 2015 IISL-ECSL symposium will be held on the first day of the fifty-fourth session of the Legal Subcommittee, on the topic of space traffic management. Board member of ECSL Professor Stephan Hobe will give a presentation entitled "Rights and obligations in the international commons: the case of outer space"
- The 2015 European round of the Manfred Lachs Moot Court Competition (May 2015)
- Summer course on space law and policy (September 2015)
- Second ECSL essay competition.

International Institute for the Unification of Private Law (Unidroit)

[Original: English]
[3 December 2014]

A. Brief overview of the Space Protocol

The Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets (the Space Protocol) is the latest in a series of protocols to the Convention on International Interests in Mobile Equipment, which was opened for signature in Cape Town, South Africa, on 16 November 2001. The Cape Town Convention is designed to facilitate asset-based financing by protecting secured creditors, conditional sellers and lessors of high-value mobile equipment that moves across or, in the case of satellites and other space assets, beyond international boundaries in the normal course of business, by providing basic default remedies and an electronic international registry in which international interests in such equipment may be registered. While the Cape Town Convention provides the overall framework for the regime, the protocols provide the equipment-specific rules that adapt this framework for each category of asset covered by the Convention; in the event of inconsistencies arising between a protocol and the Convention, it is the protocol that will prevail. Accordingly, the Space Protocol will provide the rules necessary for the Cape Town Convention to be applied to outer space assets.

The Space Protocol represents the coordinated efforts of both Governments and the commercial space sector to render asset-based financing more accessible to an industry that is presently searching for innovative ways to obtain start-up capital for space-based services. Such ventures are full of risk and uncertainty and, consequently, their financing is currently still prohibitively expensive. Through the introduction of a uniform regime to govern the creation, perfection and enforcement of international interests in space assets, notably satellites, it is envisaged that the cost of financing will be reduced as a result of the increased level of transparency and predictability for financiers, thereby making financing more widely available to a greater number of players in the commercial space sector. Such an instrument will, in particular, help bring much-needed financial resources to the NewSpace community, namely those small start-up companies that have emerged as a result of the booming commercial space sector.

The Space Protocol is designed to accomplish these ends by extending the benefits of the Cape Town Convention to space assets. In doing so, it establishes a sound international legal regime providing secured lenders, conditional sellers and lessors with an autonomous international interest in space assets that will be recognized and enforced in all contracting States and that is protected by registration in an international registry.

The international registry, when set up, will be wholly electronic, enabling registrations to be effected and search results supplied without human intervention. The establishment of the registry and the appointment of the registrar ensuring the efficient operation of the registry are the responsibility of the supervisory authority

and, for the time preceding its establishment, of a preparatory commission acting as provisional supervisory authority.

Apart from the creation of an international interest and the establishment of an international registry, the Cape Town Convention and the Space Protocol provide for speedy and effective default remedies, both within and outside of the debtor's insolvency, and prescribe rules for the priority of competing interests and legal protection against a debtor's insolvency.

In this context, it might be worth mentioning that the Space Protocol recognizes the natural interest of a State in ensuring that the exercise of a creditor's remedies against a space asset which provides a service of public importance, whether military, navigational, educational or otherwise, does not cause an abrupt termination of the public service provision, which could impair public health, national security and other services of public importance. This interest was taken into consideration by the inclusion of a well-balanced public service limitation restricting the exercise by a creditor of a default remedy that would make the space asset unavailable for the provision of a public service while at the same time providing necessary safeguards for creditors.

Finally, the Cape Town Convention and the Space Protocol are designed to ensure a maximum degree of flexibility for the contracting States by providing an elaborated system of declarations by which certain provisions that contracting States might find unacceptable as contrary to their basic legal philosophy are dependent on an opt-in or, alternatively, can be disapplied by an opt-out.

B. Latest developments (starting from 2012)

The Space Protocol was adopted in Berlin on 7 March 2012 and opened to signature at the closing ceremony of the diplomatic Conference for the adoption of the draft protocol two days later. As of now, four States have signed the Protocol.[1] A total of 10 ratifications or accessions are needed to trigger the entry into force of the Protocol, along with a certification by the supervisory authority that the future international registry for space assets is fully operational.

On the question of the organization best fitted to act as supervisory authority, the observer representing ITU at the Conference communicated the interest of the Secretary-General of ITU in that organization considering becoming supervisory authority. He indicated that this interest was subject to the matter being considered by the governing bodies of ITU and without prejudice to the decision to be taken by them in that regard. On 8 March 2012, the Conference accordingly, by its resolution 2, invited the governing bodies of ITU to consider the matter of it becoming supervisory authority upon or after the entry into force of the Protocol and to take the necessary action, as appropriate.

Pursuant to resolution 1 of the Conference, a preparatory commission was set up to act as provisional supervisory authority for the establishment of the International Registry for Space Assets under the guidance of the Unidroit General Assembly.

[1] Burkina Faso, Germany, Saudi Arabia and Zimbabwe.

The preparatory commission appointed two working groups: one entrusted with the development of rules for the International Registry for Space Assets (chaired by Igor Porokhin) and the other with the drafting of a request for proposals for the selection of a Registrar (chaired by Dr. Bernhard Schmidt-Tedd). The commission invited Sir Roy Goode to produce, with the assistance of the secretariat of Unidroit and on the basis of comments received by the members of the preparatory commission, a first draft of the registry regulations, accompanied by an explanatory memorandum clearly indicating the open points with regard to which input from industry and other experts would be most needed. Both documents were circulated in time to receive comments from delegates and observers and were discussed during a total of three sessions of the preparatory commission in 2013/2014.

At its third session, in September 2014, the preparatory commission finalized the text of the registry regulations except with regard to the issue of the identification criteria for parts of spacecraft, in particular the identifiability of separate parts of a space asset such as transponders. It was suggested to pursue a quick consultation procedure on an agreed draft text in order to receive further insights from the practical operators in the market. In this context, a questionnaire was sent out to relevant stakeholders in the space industry, such as operators of satellites, providers of space flight services and investors. The consultation is expected to be completed by the end of January 2015.

On the basis of the results of the consultations, the preparatory commission will decide on its next steps to ensure final approval of the regulations. In addition, the commission discussed the first draft of an invitation to participate in solicitations for the international registry for space assets.

In the meantime, the representatives of ITU reaffirmed the interest of their organization in accepting the role of supervisory authority for the future registry for space assets. The matter was discussed during two ITU meetings in 2014: the ITU Council meeting in May/June 2014 and the meeting of the ITU Conference of Plenipotentiaries in October/November 2014. Although a significant number of ITU member States expressed their support regarding the idea of ITU becoming the supervisory authority, the ITU Conference of Plenipotentiaries in November 2014, after a thorough discussion, decided that the ITU Council should continue to monitor any further developments regarding the role of ITU as the supervisory authority of the international registration system for space assets under the Space Protocol. Until the next meeting of the Conference of Plenipotentiaries, the ITU secretariat should continue to express the interest of ITU in becoming the supervisory authority and respond to any questions raised by the member States.

C. Outlook

With the Space Protocol adopted and the work on the regulations for the international registry for space assets to be completed in 2015, Unidroit will be looking to take the steps necessary to promote the early entry into force of the Space Protocol. Unidroit is convinced that the implementation of the Space Protocol will have a significant impact on the economic development of the space industry, particularly in the emerging and developing States that stand to benefit from it most.

This conviction derives from the positive experiences gained with the implementation and the development not only of the Cape Town Convention but also of the two previous protocols: the Protocol on Matters Specific to Aircraft Equipment (the Aircraft Protocol) and the Protocol on Matters Specific to Railway Rolling Stock (the Rail Protocol).

While the Cape Town Convention, over the past couple of years, has become more and more attractive and now counts 62 contracting parties, the Aircraft Protocol also continues to be strengthened and now counts 56 contracting parties.[2] The same development can be observed for the International Registry for Aircraft Objects, in terms of the proportion of the world's commercial aircraft financing transactions that are recorded therein. Since the Registry's entry into operation on 1 March 2006, there have been over 500,000 registrations covering 110,000 aircraft objects, with an estimated value of over half a trillion dollars.[3]

As to the implementation of the Rail Protocol, which has six signatories[4] and one State party[5] so far, a significant milestone was reached in November 2014 when Regulis SA, a SITA company, and the Secretary-General of Unidroit signed a contract for the establishment and operation of the International Registry, which will have its future seat in Luxembourg.

International Law Association[6]

[Original: English]
[10 January 2015]

A. Background information

The International Law Association (ILA) is now 142 years of age. It was founded in Brussels in 1873 and its headquarters are currently in London. It has, ever since its founding, been involved in the study, clarification and development of international law in accordance with its statutes and in pursuance of its objectives. Lord Mance, Justice of the Supreme Court of the United Kingdom of Great Britain and Northern Ireland, is the Executive Chair of the institution; Professor Marcel Brus, from the Netherlands, is the current Director of Studies; and Professor Ruth Wedgwood, from the United States, is the current World President. The officers of the Space Law Committee are Professor Stephan Hobe (German Branch) as general rapporteur and Professor Maureen Williams (ILA headquarters) as the Committee Chair.

The Space Law Committee of ILA[7] was set up in 1958 in clear response to the technological development and emerging legal problems following the launch

[2] The most recent accessions are those by Bhutan, Malawi, San Marino and Viet Nam, which became contracting parties to the Convention and to the Aircraft Protocol in 2014.

[3] See www.sita.aero/content/Aircraft-equiment-registry-passes-half-million-milestone.

[4] Gabon, Germany, Italy, Luxemburg, Switzerland and the European Union.

[5] Luxembourg.

[6] Report by the Chair of the Space Law Committee of the International Law Association (ILA). For further details, see the ILA website (www.ila-hq.org) (access by clicking on "Committees" and then on "Space law").

of Sputnik I. The Committee has worked without interruption since that time, as recorded in the ILA reports, available both in book format and online, which reflect the activity of its biennial conferences, of which 76 have been held so far. The latest conference took place in Washington, D.C., in April 2014, in conjunction with the annual meeting of the American Society of International Law. On this occasion, 31 international committees reported on a diversity of issues and challenges relating to contemporary international law. Regional conferences and committee meetings are organized with frequency in between world conferences. The seventy-seventh biennial conference shall take place in Johannesburg, South Africa, in August 2016.

A tradition of the ILA Space Law Committee is to work in cooperation with institutions involved in the various aspects of international law and space law, including the International Law Commission, the Permanent Court of Arbitration, the International Civil Aviation Organization and the Committee on the Peaceful Uses of Outer Space and its Subcommittees. Moreover, the ILA Space Law Committee liaises on a permanent basis with national space agencies, in both industrialized and developing countries, and universities and research centres around the world. On a private level, the ILA Space Law Committee participates regularly in the activities of the International Institute of Space Law, the European Centre for Space Law and the Ibero-American Institute of Aeronautic and Space Law and Commercial Aviation. The latter, based in Madrid and created half a century ago, is also a permanent observer to the Committee on the Peaceful Uses of Outer Space and reflects, in its annual publications, the views and work of the Spanish-speaking world on air and space law matters.

The International Law Association has been a permanent observer to the Committee on the Peaceful Uses of Outer Space and both its Subcommittees since 1990.

B. Space Law Committee in 2014

As announced at last year's session of the Legal Subcommittee (see A/AC.105/C.2/104), when ILA was on the threshold of its seventy-sixth biennial conference,[8] the work of the ILA Space Law Committee during 2014 focused on its new terms of reference.

The Washington working session of the ILA Space Law Committee was held in tribute to Professor Vladimir Kopal, a longstanding member who contributed to the Committee over the years with authority and rich experience. It was attended by many distinguished delegates, including the head of the United States delegation to the Committee on the Peaceful Uses of Outer Space and a representative of the Permanent Court of Arbitration.

What follows below are the results and progressive development of the ILA Space Law Committee's work in preparation for the 2016 Johannesburg conference.

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[7] Sometimes referred to as the ILA Committee.

[8] Hereinafter referred to as the Washington Conference.

C. Recent activities of the Committee, and its members, on dispute settlement, suborbital flight, use of satellite data and space debris

1. Dispute settlement in light of the Permanent Court of Arbitration Outer Space Rules

This subject was a natural follow-up to the adoption, on 6 December 2011, of the Permanent Court of Arbitration Optional Rules for Arbitration of Disputes Relating to Outer Space Activities.[9] The ongoing work of the ILA Space Law Committee in this area was described at the presentation to the fifty-third session of the Legal Subcommittee (A/AC.105/C.2/104) on the basis of what was then a draft report for submission to the Washington Conference. Further developments were registered at the working session of that Conference, where participants updated their proposals advanced in previous reports of the Committee, particularly at the conferences held in The Hague (2010) and Sofia (2012).

The general opinion was that the Rules, almost entirely procedural in nature, were an essential step forward in the progressive development of the law enabling private parties to have locus standi in space-related disputes. That was a sharp departure from the rules and mechanisms on dispute settlement embodied in the United Nations treaties on outer space, which were only available to sovereign States and international intergovernmental organizations. The general opinion highlighted the flexibility of the Rules, which avoided limitations in both their personal and material scope.

During the Washington working session, the role of a "confidentiality adviser" led to an intensive exchange of views. This new role, created by the Rules in article 17.8, had raised hardly any problems at the drafting stage of the Rules in spite of the frequent bringing up of confidentiality questions. It was considered a clever innovation to be tried out by the parties, if they so wished, in the framework of extremely flexible mechanisms. This is, so far, an abstract issue, as no clear precedent may be found.

The task of the ILA Space Law Committee now is to continue creating awareness of the existence of these Rules and their implications and to explore their effectiveness. To that end, at the Washington working session it was suggested that a questionnaire should be addressed to the space industry for further elucidation.

The ILA Space Law Committee agreed that, at least in the short term, the Rules should not be strengthened. With reference to the four central topics addressed by the Committee during the Washington Conference, there was also agreement that those topics could, at some stage, lead to friction over matters of interpretation or other matters. If so, given their great flexibility and procedural nature, the 2011 PCA Rules appeared to be a most suitable means of minimizing differences.

2. Suborbital flight and its legal aspects

This topic, entirely new on the ILA agenda, was introduced as part two of the Washington report by the general rapporteur, Professor Stephan Hobe. Reference

[9] Sometimes referred to as the PCA Outer Space Rules and/or PCA Rules.

was made to the preliminary discussions on the matter and the conflicting views on the need for definitions, which in turn raised again the issue of the definition and delimitation of outer space initially reflected in the submission by the ILA Committee Chair at the fifty-third session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space (see A/AC.105/1039/Add.3). That document drew attention to issues of liability, registration and insurance; ILA considers its contents to be still valid today.

The Washington working session circled around these questions and developed them further. There continued to be opposing viewpoints as a result of the lack of precedents on the matter. Various points of contention on the applicability of the Convention on International Liability for Damage Caused by Space Objects, designed to cover cases of third-party liability, were clearly identified. This gave way to proposals for national legislation on the matter. The application of the Convention on the Registration of Objects Launched into Outer Space was considered clear enough when confined to "space objects launched into Earth orbit or beyond", thus excluding suborbital flights.

Moreover, it was argued that liability waivers could not cover cases of gross negligence and that space law was not intended to govern transportation. In that sense, the view was expressed that suborbital flights were in conflict with articles II, III and VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and that, given the undefined legal status of such flights, they could be in conflict with article IV of that treaty as well. Safety issues apart, it remains to be considered whether these flights, which are not supposed to conclude a full orbit, may carry weapons of mass destruction without this being a breach of international law. In the language of article IV, it is against the law "to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction". What, therefore, would the situation be if the orbit were not concluded?

Another point of contention was the legal status of "space tourists" and whether they should be seen as "astronauts", "personnel aboard a spacecraft" or "envoys of mankind", or be considered under a different, or new, set of terminology. "Space tourists" does not fit easily into any of these categories, let alone "personnel on board", which refers, in its ordinary meaning, to those involved in the flight operation. Moreover, the term "astronaut" appears only once in the Outer Space Treaty and that is in article V when referring to astronauts as "envoys of mankind". This term is not used in the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

Along general lines, a definition of suborbital flight was considered somewhat premature. A majority concurred on the need for a broad approach. In that sense, it seemed more realistic to instead have a "description" which, by nature, would be non-exhaustive.

All in all, there was agreement on the need for a clearer framework to govern suborbital flight, which at the same time would encourage the development of the private suborbital industry. These challenges are now under analysis by the ILA Committee in preparation for concrete proposals for the seventy-seventh ILA Conference.

3. The use of satellite data: recent developments

This subject, within the ILA terms of reference for the Washington Conference, was addressed briefly by the ILA Committee Chair at the fifty-third session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space. During the previous mandate, the ILA Committee had practically exhausted research on issues underlying the use of satellite data in court and their value as evidence in international boundary disputes. This was an area of high sensitivity, normally involving conflicts between neighbours, and the Committee therefore approached it from a wider scope. On those grounds, it was agreed to keep the matter under permanent review, with special reference to case law in the field.

It was noted, though, that the disbelief which had previously surrounded the use of satellite data in court was now losing momentum. The use of such data as evidence in international boundary disputes had become more frequent, and there existed more awareness of space technologies, their possibilities and limitations.

The book entitled *Evidence from Earth Observation Satellites: Emerging Legal Issues*, edited and with contributions by members of the ILA Space Law Committee, was published by Brill Nijhoff in 2013. It covered a wide range of questions on the use of remote sensing technologies and satellite data in international boundary disputes.

In 2014, the ILA Space Law Committee approached other emerging applications of space technology and their impact on international law. Three questions dominated the agenda, notably with regard to freedom of information and the right of privacy, space security and the legal aspects of sea-level rise.

(a) Protection of privacy

The International Law Association introduced this question to the Legal Subcommittee in 2014 (A/AC.105/C.2/104, sect. II.C, fifth para.). The predominant view advocated caution when interpreting the principle of freedom of information in extreme terms, as had been the case in the *Sunday Times* decision by the European Court of Human Rights in 1979. Some contemporary court decisions in the United Kingdom were revealing that freedom of the press was sometimes overridden by the need to protect privacy. Indeed, within the scope of the ILA Committee, far-reaching technologies such as Google Earth were often seen as a threat to the right of privacy. Thus, the Committee's current task in that field was to establish what would be considered an acceptable balance between freedom of information and the protection of privacy. That, seen in the abstract, was no easy task. It would now be valid to discuss whether the classic paradigms should be changed.

This is a clear indication of the way opinion is moving in a changing landscape where space technologies and their applications are increasing on an unprecedented scale. Questions surrounding terrorism and counter-terrorism, and challenges stemming from recent drone technology, became, among other things, recurring themes in various international settings and, therefore, in most of the Committee's findings and dialogues.

(b) Space security and cybersecurity

A most opportune seminar on space crisis management was held in London on 22 July 2014 at the Royal Institute of International Affairs (Chatham House). It was attended by ILA space lawyers, specialists from the United Kingdom national space agency, Foreign and Commonwealth Office representatives, diplomats and other experts on these matters. The main focus was on space crisis management, space security and cybersecurity, all of which, to a great extent, depend on space technology. In fact, recent drone technology was described as a disruptive and unexpected threat from non-State actors, especially as it was becoming more accessible to the civilian sector. Participants engaged in a debate on international perspectives on linking cybersecurity and space security. In that debate, the positions of China, France, India, Italy, Japan, the Russian Federation, the United Kingdom and the United States were examined and compared. These problems are of growing importance and have a strong political dimension.

In November 2014, at the United Nations/China/Asia-Pacific Space Cooperation Organization (APSCO) Workshop on Space Law, one of the latest developments in the use of satellite data was highlighted by the ILA Committee Chair, namely the setting up in the United Kingdom the previous October of Air and Space Evidence, a space detective agency designed for the use of satellite evidence in legal cases.[10] Its objectives are, inter alia, to interpret satellite imagery and provide advice on the management, control and authentication of satellite data to be used as evidence anywhere in the world. It is interesting to note that the founders of this company have been approached by a number of United Kingdom television channels, such as the British Broadcasting Corporation (BBC) and Discovery, with the objective of producing a documentary series on the newly created company.

At the above-mentioned Workshop, these issues were followed up in a presentation on new developments and applications in the use of satellite data in international litigation by the ILA Committee Chair. Further developments are expected for submission to the 2016 ILA Conference.

(c) Sea-level rise

At the Washington Conference, an added activity for the ILA Space Law Committee was developed. It implied working jointly, at certain stages, with members of the newly set up ILA International Committee on Law and Sea Level Rise. Both Committees soon discovered how much common ground they had and could share. Discussions focused on the possible impacts, under international law, of sea-level rise that led to partial or total flooding of State territory, or depopulation thereof, particularly regarding small islands and low-lying States. Those impacts involved the study of proposals for the development of international law in a way that should envisage the loss of all or parts of State territory and maritime zones, affecting statehood, nationality, human rights and so forth. Research on sea-level rise was extremely dependent on satellite data, and the current thinking was that it might call into question the whole architecture of the law of the sea.

[10] One of the founders of Air and Space Evidence is Ray Purdy, member of the ILA Space Law Committee, who kindly provided this information.

This matter was given pride of place in session six of the United Nations/China/APSCO Workshop, which addressed the growing importance of geospatial data, with a special emphasis on disaster management and emergency response. Session six was supported by the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), a programme within the framework of the Office for Outer Space Affairs. The topic is undergoing further analysis by the ILA Space Law Committee in consultation with the Committee on Sea Level Rise.

4. Space debris and removal issues

The ILA Space Law Committee has been involved in the study of space debris and its legal aspects since the early 1990s. In 1994, at its sixty-sixth conference, it submitted a final draft of the International Instrument on the Protection of the Environment from Damage caused by Space Debris (also known as the Buenos Aires Instrument on Space Debris), which was adopted by the Conference without dissent and to which there has been frequent reference, in previous years, in ILA reports to the Legal Subcommittee. This Instrument was strongly supported by the Czech delegation in a working paper (A/AC.105/C.2/L.283) and provides a scientific definition of space debris, which, according to the scientists, is consistent with today's scenarios. The ILA Committee is currently analysing the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space (2007) and agrees, as pointed out in the Czech working paper, on the need for the legal sector to have a word on this matter, particularly as the Guidelines were drafted without the intervention of the Legal Subcommittee.

The Washington working session of the Committee recommended a thorough look into the legal implications of space debris removal which, as currently interpreted, would combine debris removal with satellite servicing operations. Some Committee members considered the report of the Working Group on the Long-term Sustainability of Outer Space Activities of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space as needing further examination by the legal sector. The majority believed that the inclusion of space debris on the Legal Subcommittee agenda as a single item for discussion, together with the duty of States to provide information on their domestic measures for mitigation, were not enough in today's world to face the threat of space debris.

This topic is in clear need of a more precise legal framework, and delicate questions surrounding space debris removal should be looked into in depth. Space debris removal implications were debated in December 2014 in Washington, D.C., at the sixth Eilene Galloway Symposium on Critical Issues in Space Law. A similar position on the importance of debris removal was taken last October, in Brazil, during the third International Congress on International Environmental Law, organized by the Catholic University of Santos and in which ILA Committee members took active part.

Finally, there was consensus on the need for closer cooperation between the Legal Subcommittee and the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space. That would possibly iron out differences and enable the drafting of a joint document of an interdisciplinary character which would ease the way for viable solutions. Technology did, no doubt, develop quickly; in addressing the four central questions in the ILA Washington

report, the general feeling was, as once described by Stephen Hawking, that we were living "a revolt by ever more intelligent robots who, by contriving to redesign themselves, evolve at a speed mere humans could never hope to reach".[11]

This was a glimpse of the current state of the field and an outline of the work of the Space Law Committee during 2015/16, with a view to the ILA seventy-seventh Conference, to be held in Johannesburg.

Intersputnik International Organization of Space Communications

[Original: English]
[28 November 2014]

A. About Intersputnik

Founded on 15 November 1971 under the Agreement on the Establishment of the Intersputnik International System and Organization of Space Communications, the Intersputnik International Organization of Space Communications (Intersputnik) is an intergovernmental satellite organization headquartered in Moscow.

Intersputnik can be joined by the Government of any State which shares the principles of its activities. Today, Intersputnik has 26 member countries, which represent virtually all geographic regions, from Central America to South-East Asia, and from Europe to Africa.[12] The Governments of the Intersputnik member countries appointed 24 signatories from among national telecommunications organizations and telecommunications administrations.

Intersputnik's mission is to contribute to the consolidation and expansion of economic, scientific, technological and cultural relations using satellite telecommunications, video and audio broadcasting, and to support cooperation and coordination of the efforts of member countries aimed at designing, procuring, operating and expanding an international satellite telecommunications system.

B. Intersputnik group of companies

Intersputnik has not embarked on a path towards privatization like Eutelsat, Inmarsat and Intelsat, which separated intergovernmental organizations and operators. Instead, Intersputnik keeps its status as an intergovernmental organization which performs the functions of an operator.

Still, to diversify Intersputnik's business and expand the range of business services, a wholly owned subsidiary of Intersputnik, Intersputnik Holding Ltd., was

[11] Cited by James Neilson in "Stop the World, it is going too fast", *Buenos Aires Herald*, 7 December 2014.

[12] Afghanistan, Azerbaijan, Belarus, Bulgaria, Cuba, Czech Republic, Democratic People's Republic of Korea, Georgia, Germany, Hungary, India, Kazakhstan, Kyrgyzstan, Lao People's Democratic Republic, Mongolia, Nicaragua, Poland, Romania, Russian Federation, Somalia, Syrian Arab Republic, Tajikistan, Turkmenistan, Ukraine, Viet Nam and Yemen.

established at the end of 2005. To offer value-added satellite telecommunications services in Intersputnik member countries, three companies were incorporated within Intersputnik Holding Ltd., in Kyrgyzstan, the Russian Federation and Tajikistan.

Apart from making a purely economic contribution, Intersputnik Holding Ltd. helped Intersputnik to step up and expand its cooperation with countries where Intersputnik Holding Ltd.'s companies were present in the marketplace. Intersputnik Holding Ltd. controlled all three and became a central decision maker and monitor.

Objective difficulties such as the global financial and economic crisis and the complicated internal political situation made the existence of Intersputnik Holding Ltd. as a separate parent business unit superfluous. Therefore, in mid-2014 it was decided to restructure the Intersputnik group. By this time, Intersputnik Holding Ltd. had already sold its stake in the Tajik company. The company in the Russian Federation was put under the direct control of Intersputnik instead of Intersputnik Holding Ltd., and secured control of the Kyrgyz company after taking over Intersputnik Holding Ltd.'s stake.

It is planned to complete the process of restructuring by liquidating Intersputnik Holding Ltd. by mid-2015. This will help cut administrative costs considerably and make management more efficient across the entire group of Intersputnik companies.

C. Orbit and frequency resource

Within the framework of its technological policy and in accordance with its mission, Intersputnik filed with the ITU radio-frequency spectrum in various geostationary satellite orbital positions. Today, the radio-frequency spectrum is at the disposal of Intersputnik in 18 positions in the geostationary orbit, from 113W to 164E, which are Intersputnik's first-rate assets.

Intersputnik secures international legal protection and analyses the utilization prospects of its orbit and frequency resources, which enables Intersputnik to implement satellite projects for the purpose of manufacturing, launching and operating telecommunications satellites in Intersputnik's orbital slots.

D. Joint satellite projects

Unable to fully finance satellite projects on its own, Intersputnik has been requesting the assistance of member countries on an ongoing basis. Regretfully, for some objective reasons it was impossible to draw investors with sufficient funds from within Intersputnik. Therefore, it was decided to continue using the available frequency and orbit resources in cooperation with outside partners.

For Intersputnik to participate in any joint satellite project, it is of utmost importance to be able to procure its own satellite resources on new satellites, that is, a certain number of transponders, which are subsequently used mainly in the interests of Intersputnik's member countries. Moreover, to meet the interests of the Intersputnik international satellite system's users to the maximum extent possible,

Intersputnik takes an active part in defining the configuration and technical parameters of its future transponders.

Today, joint satellite projects using Intersputnik's frequency and orbit resources are being carried out in six orbital positions. Satellites have already been deployed at four of these slots, while satellites will be placed in the other two positions in the near future, undoubtedly within the ITU regulatory deadlines set for bringing satellite networks into use.

On the one hand, joint satellite projects help acquire sufficient financing to apply the latest technical advances and, consequently, limit the radio-frequency spectrum used to the minimum essential percentage; on the other hand, they let Intersputnik grant to its member countries access to satellite capacity on preferential and most-favourable conditions and provide, in a qualified manner, all necessary advanced telecommunications services, thus meeting Intersputnik's statutory aims and objectives specified in its constituent documents.

E. International cooperation

Intersputnik has always been engaged in international activities which are, in the first place, aimed at deepening and developing constructive cooperation with other international, regional and national organizations in the field of satellite telecommunications.

Intersputnik continued to constructively cooperate with other international, regional and national satellite telecommunications and space law organizations, including the Committee on the Peaceful Uses of Outer Space and its Subcommittees, the ITU Radiocommunication Sector, the Regional Commonwealth in the Field of Communications and its working bodies, the Asia-Pacific Satellite Communications Council, the Global VSAT Forum, the International Astronautical Federation, the International Institute of Space Law, the Russian National Association of Television and Radio Broadcasters, the Federation of Cosmonautics, the Academy of Cosmonautics and the International Academy of Communications.

Also, agreements on cooperation are in place between Intersputnik and the International Centre of Space Law under the V. M. Koretsky Institute of State and Law of the National Academy of Sciences of Ukraine, and the International Mobile Satellite Organization. Intersputnik is considering signing a similar agreement with the International Telecommunications Satellite Organization.

Owing to its intergovernmental status and parallel operator status, Intersputnik represents a quite convenient meeting point for efficient international cooperation between the public and private sectors worldwide. Intersputnik avails itself of this opportunity to renew the assurances of its preparedness for in-depth cooperation with States and international intergovernmental and non-governmental organizations, as well as regional and national organizations.

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Item 12 of the provisional agenda*
Review of international mechanisms for cooperation in the peaceful exploration and use of outer space

Review of international mechanisms for cooperation in the peaceful exploration and use of outer space

Note by the Secretariat

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I. Introduction

1. At its fifty-third session, in 2014, the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space agreed that the States members of the Committee on the Peaceful Uses of Outer Space and the international intergovernmental and non-governmental organizations having permanent observer status with the Committee should, in accordance with the workplan for 2015 (A/AC.105/1003, para. 179), again be invited to provide examples and information on the mechanisms for international cooperation they utilized for space cooperation. States members of the Committee and permanent observers of the Committee were encouraged to refer to the set of questions agreed by the Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space, as appropriate and on a voluntary basis, for guidance on their contribution to the work of the Working Group (A/AC.105/1067, annex III, paras. 9 and 10).

2. The present document has been prepared by the Secretariat on the basis of replies received from Japan and Spain.

II. Replies received from States members of the Committee on the Peaceful Uses of Outer Space

Japan

[Original: English]
[16 January 2015]

Further to the request from the Office of Outer Space Affairs of the Secretariat, Japan submits the information on the mechanisms for international cooperation with reference to the set of questions provided in the report of the Working Group. In this paper, Japan provides the following examples:

1. Cooperation on the high-quality protein crystal growth experiment on board the Japanese Experiment Module "KIBO";

2. Asteroid Explorer "Hayabusa2" Project (Hayabusa2 Project);

3. Sentinel Asia;

4. Cooperative project between the Japan Aerospace Exploration Agency (JAXA) and the Asian Development Bank.

Question 1. What is the main area of your cooperation (e.g., space exploration, scientific research, testing, education and personnel training, global navigation, disaster management through remote sensing, commercial launch services, etc.)?

Japan has cooperated in numerous areas, and the cooperation referenced below is illustrative only. The areas of cooperation are set out below.

1. Scientific research and utilization services: JAXA intends to promote the utilization of the Japanese Experiment Module "KIBO" of the International Space Station, for example, by conducting an experiment to obtain high-quality protein crystals in a microgravity environment.

2. Space exploration: the Hayabusa2 Project is aimed at exploring one of the carbonaceous (C-type) asteroids in the universe, retrieving materials and bringing them to the Earth.

3. Disaster management through remote sensing: Sentinel Asia is aimed at mitigating and preventing damage caused by natural disasters using Earth-observation satellites and other space technologies by collecting disaster-related information and sharing it over the Internet.

4. Disaster management, climate change mitigation and adaptation, forest monitoring and water resources management: JAXA and the Asian Development Bank cooperate in promoting the application of satellite technology in the Asia and Pacific region.

Question 2. Is this multilateral or bilateral cooperation (e.g., intergovernmental cooperation, inter-agency cooperation, cooperation between non-governmental entities, mixed cooperation, etc.)?

1. The high-quality protein crystal growth experiment on board "KIBO" was carried out as bilateral cooperation between JAXA and the Government of Malaysia.

2. The Hayabusa2 Project is undertaken through bilateral cooperation between JAXA and the National Aeronautics and Space Administration (NASA) on the one hand, and between JAXA and the German Aerospace Center (DLR) on the other hand. NASA provided support for the development, launch and operation of the Hayabusa2, gathering data and undertaking related scientific activities. DLR developed and provided the Mobile Asteroid Surface Scout, which is a small lander on board Hayabusa2.

3. Sentinel Asia is a multilateral collaboration among space agencies and disaster management agencies. Sentinel Asia promotes cooperation among the space community, the disaster management community (the Asian Disaster Reduction Center and its members) and the international community (the Economic and Social Commission for Asia and the Pacific, the Office for Outer Space Affairs of the Secretariat, the Association of Southeast Asian Nations (ASEAN), the Asian Institute of Technology, etc.).

4. JAXA and the Asian Development Bank cooperate bilaterally in providing technical assistance to projects supported by the Bank, using satellite data and working on capacity development on the use of satellite data through the training of persons from national institutions in Asia and the Pacific region.

Question 3. What is the duration of the cooperation?

The duration of the cooperation is determined on a case-by-case basis.

1. The arrangement between JAXA and the Government of Malaysia concerning this cooperation remains effective for four years after signature.

2. In the cooperation between JAXA and NASA, the implementing arrangement (a memorandum of understanding) remains effective for 11 years after signature, in accordance with the exchange of notes between the Government of Japan and the Government of the United States of America concerning the cooperation.

In the cooperation with DLR, the arrangement remains effective for 10 years after signature.

3. Sentinel Asia will remain effective for an indefinite period.

4. The letter of intent between JAXA and the Asian Development Bank concerning this cooperation remains effective for six years after signature.

Question 4. Does a national space agency play a key role in the cooperation?

JAXA, an incorporated administrative agency, plays a key role in each of the cooperation arrangements.

Question 5. Does a national authority or institution other than a space agency play an important role in the cooperation (e.g., a scientific institution, meteorological agency, development or financial assistance authority, etc.)?

The involvement of such Japanese national authorities or institutions and their role are as follows:

1. No.

2. Japanese national universities are participating in the Hayabusa2 Project as scientific investigators and are playing key roles in the development of scientific payloads.

3. Japanese national universities are participating in Sentinel Asia and are playing important roles in data analysis and capacity-building.

4. Professors of a Japanese national university are participating in the Asian Development Bank project as experts (consultants).

Question 6. Are private companies or industries directly involved in the cooperation?

Private entities are not directly involved.

Question 7. Is the cooperation conducted within the framework of:

(a) The United Nations and its specialized agencies;

(b) Independent intergovernmental organizations;

(c) Regional or interregional space cooperation organizations or mechanisms;

(d) Non-governmental organizations;

(e) Other types of forums?

1. Other types of forums: the International Space Station.

2. Other types of forums: intergovernmental and inter-agency cooperation.

3. Regional or interregional space cooperation organizations or mechanisms: the Asia-Pacific Regional Space Agency Forum.

4. Other types of forums: the Asian Development Bank project.

Question 8. Is the cooperative mechanism multilateral or bilateral?

1. Multilateral cooperative mechanism.

The high-quality protein crystal growth experiment, in cooperation with Malaysia, is conducted on board "KIBO" of the International Space Station. Fifteen countries,

including Canada, Japan, the Russian Federation, the United States and several European States, participate.

2. Bilateral cooperative mechanism.

3. Multilateral cooperative mechanism.

Sentinel Asia is a multilateral mechanism in the Asia-Pacific region that consists of 95 organizations, including 80 organizations from 25 countries and regions and 15 international organizations (as at November 2014).

4. Bilateral cooperative mechanism.

Question 9. Is the cooperative mechanism:

(a) A legally binding agreement?

(b) A non-legally binding arrangement (if so what kind of arrangement)?

(c) A combination of both?[1]

1. A combination of both: the Agreement among the Government of Canada, Governments of States members of the European Space Agency, the Government of Japan, the Government of the Russian Federation and the Government of the United States Concerning Cooperation on the Civil International Space Station, done at Washington, D.C. on 29 January 1998, is a legally binding, intergovernmental agreement; and there is a non-legally binding arrangement between JAXA and the Government of Malaysia.

2. Concerning the cooperation with NASA, it is a combination of both: the Agreement between the Government of Japan and the Government of the United States Concerning Cross-Waiver of Liability for Cooperation in the Exploration and Use of Space for Peaceful Purposes is a legally binding agreement, the exchange of notes between the two Governments concerning the cooperation on the Asteroid Explorer Hayabusa2 Project is a legally binding agreement, and the implementing arrangement (a memorandum of understanding), agreed upon by JAXA and NASA, is a non-legally binding arrangement. The cooperation with DLR is based on a non-legally binding arrangement.

3. Sentinel Asia was launched based on the recommendation of the Asia-Pacific Regional Space Agency Forum and is currently conducted in accordance with the terms of reference on the Joint Project Team for Sentinel Asia Step3 (a non-legally binding arrangement).

4. Letter of intent and partnership arrangement between JAXA and the Asian Development Bank (non-legally binding arrangements).

[1] The information given here is based on the understanding that a "legally binding agreement" is an international agreement such as a legally binding agreement concluded between Governments, and "a non-legally binding arrangement" is any arrangement other than an international agreement.

Question 10. Is the cooperative mechanism constituted by a framework agreement, either multilateral or bilateral, and is it accompanied by an implementing agreement or arrangement and/or a memorandum of understanding for technical cooperation and coordination within the cooperation?

1. The Government of Malaysia is regarded as a user of JAXA, and the cooperation is executed in line with the intergovernmental agreement.

2. No.

3. No.

4. No.

Question 11. What kinds of provisions do the legally binding agreement and/or non-legally binding arrangement contain?

1. (a), (b), (c), (d), (e), (f), (g), (h) and (i) ("Release of results and public information" and "Use of experiment").

2. (a), (c), (d), (e), (f), (g), (h) and (i) ("Registration of space object" and "Release of results and public information").

3. (a) and (i) ("Membership", "Responsibility", "Operation", "Secretariat", "Accession", "Withdrawal", "Duration" and "Modification").

4. The partnership arrangement between the Asian Development Bank and JAXA contains other types of provision, namely "Roles and responsibilities of the Asian Development Bank and JAXA", "Financial provisions", and "Miscellaneous".

Question 12. Is it clearly provided for in the legally binding agreement or non-legally binding arrangement that the operation of the project shall be conducted in accordance with the United Nations treaties on outer space and in consideration of principles on outer space and related General Assembly resolutions (resolutions on the concept of the launching State, registration practice, national legislation etc.)?

1. Yes. The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies; the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space; the Convention on International Liability for Damage Caused by Space Objects; and the Convention on Registration of Objects Launched into Outer Space.

2. Yes. The Registration Convention and the Liability Convention.

3. No.

4. No.

Spain

[Original: Spanish]
[24 November 2014]

Spain attaches the utmost importance to international cooperation in space matters. For more than 50 years, it has engaged continuously in cooperation in outer space affairs with other States and international organizations, and continues to conduct most of its space activities in collaboration with other States. As the local aerospace industry has been developing, national projects have also been undertaken, but Spain is aware of the tremendously positive impact that international cooperation has always had and continues to have on the development of the Spanish aerospace sector.

Multilateral cooperation

A large number of the space activities of Spain are carried out within the framework of multilateral cooperation. Within the United Nations, Spain has been a member of the Committee on the Peaceful Uses of Outer Space since 1980. Likewise, Spain is a party to four of the five United Nations treaties on outer space: the Outer Space Treaty, the Rescue Agreement, the Liability Convention and the Registration Convention. All these treaties, which were published in the Official State Gazette of Spain, are considered applicable law in Spain.

Spain is also a member of the International Telecommunication Union (ITU) and, as such, is a party to the Union's basic treaty, the Constitution and Convention of ITU, the current version of which dates from 1992. Within the field of satellite telecommunications, Spain is a member of the International Telecommunications Satellite Organization (ITSO, formerly INTELSAT), the International Mobile Satellite Organization (IMSO, formerly the International Maritime Satellite Organization (INMARSAT)) and the European Telecommunications Satellite Organization (EUTELSAT-IGO, formerly EUTELSAT), having ratified at the time of their adoption the founding conventions and operating agreements, as well as the subsequent amendments thereto that privatized the assets of those three organizations and modified their internal structure in order to adapt it to reform. Since 1992, Spain has also participated in the International Satellite System for Search and Rescue (COSPAS/SARSAT), used for search and rescue in cases of shipwreck and other emergencies, and has contributed a part of the programme's ground segment.

Within the European Union, of which it has been a State member since 1986, Spain plays a key role in the Galileo satellite navigation system and the Copernicus Earth observation system. Furthermore, Spanish universities and companies are participating to a growing extent in the successive framework programmes for science of the European Union.

Spain plays an even more prominent role as a member of the European Space Agency (ESA). In that regard, it should be recalled that Spain has participated from the outset in the European space effort, becoming a member of the European Space Research Organization (ESRO), one of the then two regional space institutions, in 1964. Once both ESRO and the parallel organization dedicated to launchers (the European Launch Development Organization) were replaced by ESA, Spain became

a founding member of ESA on ratifying the Convention of 1975 that established the Agency. Owing to that role in ESA, Spain was one of the 18 nations that participated in the construction of an orbital research laboratory, Spacelab, that was launched aboard the NASA Space Shuttle.

In 1986, Spain established a public entity, the Centre for Industrial Technological Development (CDTI), dedicated to managing and promoting the participation of Spanish companies in the Agency's programmes. Spain is active in all ESA programmes, from space science to Earth observation, microgravity experiments, and telecommunications, among others. Spain also has an astronaut, Pedro Duque, posted with the European Astronaut Corps, who has flown to space twice, both times in international cooperation missions. As of 2014, Spain is the sixth biggest net contributor to ESA, providing 139 million euros, which is about 5 per cent of the budget. ESA has two outstanding facilities on Spanish soil: the European Space Astronomy Centre in the Madrid Region, and a deep space tracking station in Cebreros.

Through ESA, Spain is one of the 15 States that participates in the International Space Station. Spanish companies have contributed to the construction of many objects that are part of the hardware of the Station. In order to make that participation possible, Spain ratified the International Space Station Intergovernmental Agreement of 1998. Both the Intergovernmental Agreement and all the other agreements and memorandums of understanding that accompany it constitute applicable law in Spain. The Agreement is an excellent legal framework and one that can serve as a model for future international initiatives relating to cooperation in outer space affairs.

Spain is also a founding member and an active member of the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), which was established in 1983.

Bilateral cooperation

At the bilateral level, Spain has maintained a very close relationship with the United States since 1960, maintaining permanent space cooperation treaties since that date to the present. Those treaties have been of great importance to both parties, allowing the United States to establish on Spanish territory several space stations for tracking both manned and unmanned space vehicles and benefiting Spain through the training of numerous technical staff in managing those stations.

Specifically, the NASA stations located in Maspalomas (1960), Cebreros (1966) and Fresnedillas (1967) had a prominent role in the first United States manned programmes: Mercury, Gemini and the Apollo lunar missions. In addition, the Robledo de Chavela tracking station (1964), one of three such stations worldwide that form the NASA Deep Space Network and currently managed jointly with the Spanish National Institute for Aerospace Technology (INTA), has played a key role in the tracking both of the Apollo lunar missions and of unmanned NASA missions to explore the solar system, such as Mariner, Pioneer, Voyager, Viking, Cassini and Mars Exploration Rovers.

The El Arenosillo rocket launch site, which began operating in 1966, was also the fruit of a cooperation agreement between Spain and the United States. Over the years, both the United States and various European countries have made use of the

launch facility, which remains in operation today. The launch of the first Spanish satellite, Intasat, was also the result of a cooperation agreement between INTA and NASA. The satellite was built in Spain and was launched aboard a Delta rocket from the United States in 1974.

A further noteworthy aspect of space cooperation between Spain and the United States was the memorandum of understanding signed by the two countries in 1983 and elevated to the status of international treaty in 1991, which allowed the Space Shuttle to land in case of emergency in certain Spanish airports (Morón and Zaragoza). This bilateral agreement referred to and was fully compatible with the Outer Space Treaty and the Rescue Agreement.

Lastly, the Astrobiology Centre (CAB) in Torrejón de Ardoz (Madrid) maintains close ties with NASA as it is an associate partner of the NASA Astrobiology Institute. It was as a result of those ties that, through a specific bilateral cooperation agreement, Spain participated in the NASA Mars Science Laboratory mission, CAB providing the Rover Environmental Monitoring Station, which has been operating aboard the robot Curiosity since its landing on Mars in 2012. A high-gain antenna enabling direct communication between Curiosity and the Earth was also built in Spain.

In 2006, Spain concluded another important bilateral treaty on cooperation in outer space affairs with the Russian Federation. That instrument can be considered a model framework treaty since it covers multiple aspects of space cooperation, both at the Government level and between private entities, and activities relating both to launches and to the exploration and use of outer space, whether scientific or commercial.

The treaty establishes the conditions governing the conclusion of subsequent agreements and specific contracts relating to each of the activities covered by the treaty. To that end, the treaty provides for the planning and implementation of joint programmes and projects; regulates the exchange of scientific and technical information between the parties, including the protection of confidential information and intellectual property rights; adopts the principle of mutual waiver of responsibility, which is common in joint space projects; facilitates the passage of staff through customs and the import and export of space materials between the two countries; and also facilitates the provision of technical assistance and mutual access to national and international programmes and projects involving each party. Disputes are settled amicably through consultation between the parties and, if necessary, through referral to an arbitral tribunal agreed upon by both parties.

International cooperation at the level of entities and companies

No less important are the activities of Spanish entities involving cooperation with private companies and other entities of other countries. Some examples of such cooperation are set out below.

To date, Spain has launched all of its space objects by means of United States, European (Ariane) and Russian (Soyuz) private launch systems.

Several Spanish companies participate in the European consortium Arianespace, which is responsible for marketing Ariane rockets, and contribute directly to the construction of the Ariane launcher.

For its part, Hispasat, the Spanish operator of telecommunications satellites, has built all of its satellites in collaboration with European and United States companies and has a subsidiary company in Brazil to market the services of the Amazonas transatlantic satellite system.

The Swiss company Swiss Space Systems (S3), together with several Spanish aerospace companies, has in recent months established a private consortium that plans to launch manned suborbital flights and small space objects into Earth orbit from Spanish territory (the Canary Islands).

A number of satellites manufactured in Spanish universities are involved in the QB50 project to launch 50 small satellites (including CubeSats and nanosatellites), led by the von Karman Institute for Fluid Dynamics in Belgium.

Conclusion

Spain supports the adoption, in the future, of appropriate international measures to promote transparency in outer space activities. It also supports the development of multilateral regulations that ensure the long-term sustainability of space activities, such as the European Union proposal for a code of conduct governing the activities of States in outer space.

For Spain, international cooperation in space matters is essential both in order to ensure the long-term safety and security of the space environment and to make possible the sustainable development of all countries.